Claims:

1. A photovoltaic element comprising:

a substrate,

a first transparent electrode layer formed on said substrate,

an electric power generating layer formed on said first transparent electrode layer, said electric power generating layer being constituted by a first conduction type semiconductor film, an intrinsic semiconductor film and a second conduction type semiconductor film different in conduction type from said first conduction type semiconductor film,

an second transparent electrode layer formed on said electric power generating layer, and

an intermediate layer made of a given material except oxide between said first transparent electrode layer and said electric power generating layer.

2. The photovoltaic element as defined in claim 1, wherein a thickness of said intermediate layer is set within 0.5-20nm.

3. The photovoltaic element as defined in claim 1 or 2, further comprising a back electrode layer on said second transparent electrode layer, wherein said substrate is made of a given transparent material and said intermediate layer is made of a metal composed of at least one selected from the group consisting of Fe, Ni, Cr, W, Ti, Ag, Ta and Mo or a silicide composed of at least one selected from the group consisting of Fe, V, Mn, Co, Zr, Nb, Pt, Ni, Cr, W, Ti, Ta and Mo.

4. The photovoltaic element as defined in claim 3, wherein said substrate is made of an organic film.

5. The photovoltaic element as defined in claim 1 or 2, wherein said substrate is made of a given metallic material and said intermediate layer is made of a metal composed of at least one selected from the group consisting of Fe, Mn, Co, Zr, Nb, Pt, Ni, Cr, W, Ti, Ta and Mo or a silicide composed of at least one selected from the group consisting of Fe, V, Mn, Co, Zr, Nb, Pt, Ni, Cr, W, Ti, Ta and Mo.

6. The photovoltaic element as defined in claim 5, wherein said substrate is made of a stainless foil.

7. The photovoltaic element as defined in claim 1 or 2, wherein said

substrate is composed of a first substrate made of a given transparent material and a second substrate made of a given metallic material, and said intermediate layer is made of a metal composed of at least one selected from the group consisting of Fe, V, Mn, Co, Zr, Nb, Pt, Ni, Cr, W, Ti, Ta and Mo or a silicide composed of at least one selected from the group consisting of Fe, V, Mn, Co, Zr, Nb, Pt, Ni, Cr, W, Ti, Ta and Mo.

8. The photovoltaic element as defined in claim 7, wherein said first substrate is made of an organic film.

9. The photovoltaic element as defined in claim 7 or 8, wherein said second substrate is made of a stainless foil.

10. The photovoltaic element as any one of claims 1-9, wherein said first transparent electrode film is made of a ZnO film.

11. The photovoltaic element as any one of claims 1-10, wherein said second transparent electrode film is made of an ITO film.

12. The photovoltaic element as any one of claims 1-11, wherein said electric power generating layer is formed by means of plasma CVD.

13. The photovoltaic element as any one of claims 1-12, wherein said electric power generating layer is made of amorphous silicon.